

ICT-Enabled Collaborative Approach to Wicked Problems in Society

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Greetings

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Distinguished delegates, honorable guests, and ladies and gentlemen!

Good morning!

It is a great pleasure to be here as a keynote speaker of the Asia-Pacific Regional Forum on e-Government and ICT Applications for Sustainable Development hosted by ITU and UNPOG/UNDESA. My topic today is 'ICT-enabled collaborative approach to wicked problems in society.' Let me start with looking over recent trends of ICT developments.

Technological Opportunities

The Asia-Pacific Regional Forum focuses on examining trends of ICTs, e-

Government, smart cities, and Digital Societies, tapping into their potentials for sustainable development. These topics are now in the midst of hot debates over their opportunities and threats in academia, industry, government, and civil society.

Recent technological advances are summarized as ICBMS. ICBMS does not stand for inter-continental ballistic missiles, but it refers to the Internet of things(IoT), cloud computing, big data analytics, mobile devices, and social technology. Machine(deep) learning and cyber physical systems (CPS) are some other technologies worth paying attention as well.

Under hyper connected environments of ICBMS, every single person, animal, car, and fixed object such as buildings and electric poles throughout the country become sensors capturing sight, sound, touch, and also the location of accidents and catastrophes, and the spot of urgent welfare assistance needs.

I think ICBMS will make it possible to capture taste like sweetness and bitterness, and smell like gas and smoke in the near future. And then, artificial five senses will be realized. Through hyper connections, new digital world, which was shown in Sci-Fi movies like 'Minority Report', will come true in the near future. In spite of increasing concerns over security issues, ICBMS provides new opportunities for governments to tackle complex problems which were not properly managed in the past.

However, technological solutions are not sufficient. Before applying them to

complex problems, we first have to look at the nature of those problems and related institutional arrangements.

The Nature of Wicked Problems

Today, governments are increasingly faced with unprecedented or infrequent focusing events and long-standing complex problems within their society. They are called 'wicked problems' in general.

A wicked problem is a tangled, unstructured, and intractable issue which is difficult or even impossible to solve in society. The involved actors disagree not only about the solution, but even about the nature and characteristics of the problem because of incomplete and changing conditions which are uneasy to comprehend. It tends to have vague causalities which even specialists cannot easily identify with scientific methods. Because of uncertain, complex, and dynamic interdependence, the effort to solve one aspect of a wicked problem may only lead to other problems.

A further feature of wicked problems is that they frequently cut across the traditional jurisdictions and organizational boundaries. For that reason, governments, businesses and civil society by themselves cannot tackle these issues through go-it-alone strategies. Collective intelligence and collaborative governance become, therefore, more efficient and effective than standard disciplinary knowledge and

standard operating procedures(SOPs).

Among wicked problems are crises and disasters like earthquakes and tsunamis, climate change, large-scale oil spills, epidemics, terrorism, and even long-standing issues like the use of biotechnology, health care and welfare reform, and an aging society with low birth rates.

For example, Koreans were shocked by unusual incidents like the outbreak of the Middle East Respiratory Syndrome (MERS). MERS has much weaker infectivity and damages than Severe Acute Respiratory Syndrome (SARS) which was so rampant in China and South-eastern countries a decade ago. Instead, due to its infrequency of and our unpreparedness for MERS, not only the government and the general public, but medical circles with high-skilled expertise and sophisticated medical equipments were in a panic for two months.

Japan's economy was struck by Tohoku tsunami and Fukushima nuclear disaster thereafter in 2011. Japan is well known country for its preparedness against this kind of disasters in terms of crisis reaction manual and emergency training. I think that Thai people also suffered from huge flood in Bangkok in 2011 and now from a sudden bomb blast.

Those disasters and crises have not been predicted in advance, despite remarkable scientific and technological advances throughout recent decades. For example, one study shows that it takes one hundred years for technological

advances to shorten just 10 minutes in predicting the exact time of occurrence of tornadoes in the United States.

Collaborative Governance

An appropriate and relevant response to these tangled, unstructured, and cross-cutting problems is collaborative governance. Collaborative governance is the structures and processes of policy formulation and service delivery which engages citizens collectively across the traditional boundaries, with a shared public goal.

Under uncertain and complex environment and constrained resource mobilization, government's collaboration with the private sector has become a general trend. It enables non-governmental actors to participate in entire policy cycles. Decision making by collective intelligence, public/private partnership(PPP), and mash-up of public and private data for public and commercial purposes are some cases of collaboration.

Collaboration usually leads to better results, but comes at a cost. At this point e-Government and ICMBBS can be exploited to reduce the cost of collaboration and coordination through government-wide knowledge network and information sharing system, and consolidating ICT resources.

Here, let me touch upon a small case of crowdsourced collaboration. In

January this year, a hit-and-run driver who hit a victim at midnight to death was immediately chased online by angry netizens besides police manpower and forced to turn himself in soon after the accident took place. It is a kind of crowdsourced crime scene investigation(CSI), using automotive black boxes, surveillance cameras, mobile devices, and social network technologies.

Gov 3.0 of Korea

In Korea, President Park Geun-Hye, who is mindful of those complex problems, launched a new paradigm for government operation called Gov 3.0. Gov 3.0 is not merely a political rhetoric, but a concrete action plan with road maps. In e-Gov, while Gov 1.0 means people's access to information and one-way consultation, Gov 2.0 does open government data(OGD) and two-way collaboration.

Under the timely recognition of wickedness of complex issues which the government should tackle, President Park suggests Gov 3.0 as a paradigm shift from Gov 1.0 and Gov 2.0. Gov 3.0 pursues a competent and transparent government which provides bespoke and customized services to citizens according to their life cycles. It focuses on overcoming the limitations of the agency-centric e-Gov practices. I will talk about this issue in detail at the CIO conference tomorrow.

Main instruments of Gov 3.0 are, first, open collaborative governance

throughout the entire policy cycles and, second, the whole-of-government approach to e-Gov. This is to create an open government in which administrative processes among ministries and agencies are fully integrated, public data and information are widely open and shared among citizens as well as stake holders, and information systems and communication channels become seamlessly interoperable across the government.

First of all, Gov 3.0 focuses on innovating conventional ways of service delivery. A basic rule of government service is official's response following citizens' request. Gov 3.0 Committee is changing this administrative rule to make the government act first before request.

For example, year-end tax adjustment forms will soon be filled out by the government first and confirmed by citizens later. This innovative approach is a typical case of citizen-centered service of Gov 3.0. To date, taxpayers themselves had to make the year-end tax adjustments online after filling in several deductions using information uploaded on Home Tax Service(HTS) portal. And then, the National Tax Service would simply check and finalize the process.

This standard procedure will change in the opposite direction. Starting from the end of this year, the NTS will prepare all the required information, and citizens no longer need to fill in information themselves. Nowhere else to be seen, this proactive pre-filling service will benefit more than 16 million taxpayers.

Second, Gov 3.0 seeks government-wide solutions for wicked problems through full exploitation of competences and resources of government at all levels. According to the recently enacted Cloud Computing Development Act of 2015, cloud computing resources in the private sector will be insourced to the National Computing & Information Agency and other public entities. G-Cloud is also expected to promote government-wide knowledge management and information sharing.

Third, in order to fully collaborate with the private sector, the government should be transparent by opening public data and guaranteeing the access to administrative information. Open government promotes not only the data industry but public trust in government. Under the recognition of the importance of transparent government, opening government data project is being pushed forward as one of important Gov 3.0 projects under the Public Data Provision and its Utilization Promotion Act of 2013.

In sum, Gov 3.0 of Korea is pursuing ICT- enabled competent and transparent government, which provides personalized services from the collaborative governance perspective. Apparently, this is a new paradigm to tackle wicked problems through collaborative governance and collective intelligence beyond agency-centric and provider-oriented administration.

Concluding Remarks

Well, I guess it is time for the final statement now. I hope that this forum will contribute to sharing experiences and policy implications to tackle complex issues using ICBMS for Asia-Pacific countries.

Also, I expect that Korea's experience in e-Gov and Gov 3.0 will give all of you some good lessons and insights. Thank you.